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**LOCUS** AE000154 11519 bp DNA linear BCT 01-DEC-2000  
**DEFINITION** Escherichia coli K12 MG1655 section 44 of 400 of the complete genome.  
**ACCESSION** AE000154 U00096  
**VERSION** AE000154.1  
**KEYWORDS**  
**SOURCE** Escherichia coli K12  
**ORGANISM** Escherichia coli K12  
Bacteria; Proteobacteria; Gammaproteobacteria; Enterobacteriales; Enterobacteriaceae; Escherichia.  
**REFERENCE**  
**AUTHORS** Blattner, F.R., Plunkett, G. III, Bloch, C.A., Perna, N.T., Burland, V., Riley, M., Collado-Vides, J., Glasner, J.D., Rode, C.K., Mayhew, G.F., Gregor, J., Davis, N.W., Kirkpatrick, H.A., Goeden, M.A., Rose, D.J., Mau, B. and Shao, Y.  
**TITLE** The complete genome sequence of Escherichia coli K-12  
**JOURNAL** Science 277 (5331), 1453-1474 (1997)  
**MEDLINE** 97426617  
**PUBMED** 9278503  
**REFERENCE**  
**AUTHORS** Blattner, F.R.  
**TITLE** Direct Submission  
**JOURNAL** Submitted (16-JAN-1997) Guy Plunkett III, Laboratory of Genetics, University of Wisconsin, 445 Henry Mall, Madison, WI 53706, USA. Email: [ecoli@genetics.wisc.edu](mailto:ecoli@genetics.wisc.edu) Phone: 608-262-2534 Fax: 608-263-7459  
**REFERENCE**  
**AUTHORS** Blattner, F.R.  
**TITLE** Direct Submission  
**JOURNAL** Submitted (02-SEP-1997) Guy Plunkett III, Laboratory of Genetics, University of Wisconsin, 445 Henry Mall, Madison, WI 53706, USA. Email: [ecoli@genetics.wisc.edu](mailto:ecoli@genetics.wisc.edu) Phone: 608-262-2534 Fax: 608-263-7459  
**REFERENCE**  
**AUTHORS** Plunkett, G. III.  
**TITLE** Direct Submission  
**JOURNAL** Submitted (13-OCT-1998) Laboratory of Genetics, University of Wisconsin, 445 Henry Mall, Madison, WI 53706, USA  
**COMMENT** This sequence was determined by the E. coli Genome Project at the University of Wisconsin-Madison (Frederick R. Blattner, director). Supported by NIH grants HG00301 and HG01428 (from the Human Genome Project and NCHGR). The entire sequence was independently determined from E. coli K12 strain MG1655. Predicted open reading frames were determined using GeneMark software, kindly supplied by Mark Borodovsky, Georgia Institute of Technology, Atlanta, GA, 30332 [e-mail: [mark@amber.gatech.edu](mailto:mark@amber.gatech.edu)]. Open reading frames that have been correlated with genetic loci are being annotated with CG Site Nos., unique ID nos. for the genes in the E. coli Genetic Stock Center (CGSC) database at Yale University, kindly supplied by Mary Berlyn. A public version of the database is accessible (<http://cgsc.biology.yale.edu>). Annotation of the genome is an ongoing task whose goal is to make the genome sequence more useful by correlating it with other data. Comments to the authors are appreciated. Updated information will be available at the E. coli Genome Project's World Wide Web site (<http://www.genetics.wisc.edu>). \*\*\* The E. coli K12 sequence and its annotations are periodically updated; this is version M54. No sequence changes. Annotation updates: updated gene identifications and products; all new functional assignments courtesy of Monica Riley; added promoters, protein binding sites, and repeated sequences described in reference 1. The unique numeric identifiers

beginning with a lowercase 'b' assigned to each gene (protein- or RNA-encoding) are now designated as gene synonyms instead of labels. This should allow them to be searched for in Entrez as gene names.

FEATURES	Location/Qualifiers
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